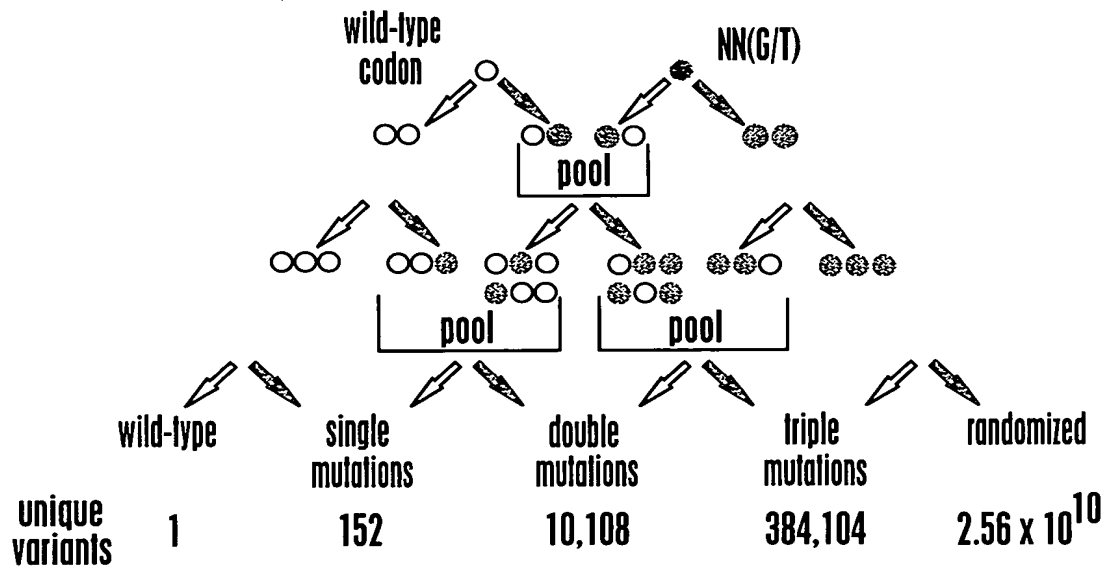


Figure 6

Figure 7



T7 primer

TTAATACGACTCACTATAGGG AGACGGG AAG CTT AAG GTG CAC GGC CCA CGT GGA TCG ATC GCG CGC AGA TCT TCG GAA

Hind 3

Bgl II

-28

Met Asp Ser Lys Val Thr Ile Ile Cys Ile Arg Phe Leu Phe Trp Phe Leu Leu Cys Met Leu Ile Gly Lys Ser His Thr  
GCC ACC ATG GAT AGC AAA GTC ACA ATC ATA TGC ATC AGA TTT CTC TTT TGG TTT CTT TTG CTC TGC ATG CTT ATT GGG AAG TCA CAT ACT

+1 NcoI

10

CHO

20

Sph I

30

Glu Asp Asp Ile Ile Ala Thr Lys Asn Gly Lys Val Arg Gly Met Asn Leu Thr Val Phe Gly Thr Val Thr Ala Phe Leu Gly  
GAA GAT GAC ATC ATA ATT GCA ACA AAG AAT GCA AAA GTC AGA GGG ATG AAC TTG ACA GTT TTT GGT GGC AGG GTA ACA GCC TTT CTT GGA 90

40

50

CHO

60

Ile Pro Tyr Ala Gln Pro Pro Leu Gly Arg Leu Arg Phe Lys Lys Pro Gln Ser Leu Thr Lys Trp Ser Asp Ile Trp Asn Ala Thr Lys  
ATT CCC TAT GCA CAG CCA CCT CTT GGT AGA CTT CGA TTC AAA AAG CCA CAG TCT CTG ACC AAG TGG TCT GAT ATT TGG AAT GCC ACA AAA 180

Acc I Taq I

80

90

Tyr Ala Asn Ser Cys Gln Asn Ile Asp Gln Ser Phe Pro Gly Phe His Gly Ser Glu Met Trp Asn Pro Asn Thr Asp Leu Ser Glu  
TAT GCA AAT TCT TGC TGT CAG AAC ATA GAT CAA AGT TTT CCA GGC TTC CAT GGA TCA GAG ATG TGG AAC CCA AAC ACT GAC CTC AGT GAA 270

100

110

117

120

Asp Cys Leu Tyr Leu Asn Val Trp Ile Pro Ala Pro Lys Pro Lys Asn Ala Thr Val Leu Ile Trp Ile Tyr Gly Gly Phe Gln Thr  
GAC TGT TTA TAT CTA AAT GTA TGG ATT CCA GCA CCT AAA CCA AAA AAT GCC ACT GTA TTG ATA TGG ATT TAT GGT GGT TTT CAA ACT 360

130

140

150

Gly Thr Ser Ser Leu His Val Tyr Asp Gly Lys Phe Leu Ala Arg Val Glu Arg Val Ile Val Val Ser Met Asn Tyr Arg Val Gly Ala  
GGA ACA TCA TCT TTA CAT GTT TAT GAT GGC AAG TTT CTG GGT CGG GTT GAA AGA GTT ATT GTA GTG TCA ATG AAC TAT AGG GTG GGT GCC 450

Ava I

Figure 1A

|   |     |     |
|---|-----|-----|
| 160   | 170 | 180 |
| Leu Gly Phe Leu Ala Leu Pro Gly Asn Pro Glu Ala Pro Gly Asn Met Gly Leu Phe Asp Gln Gln Leu Ala Leu Gln Trp Val Gln Lys |     |     |
| CTA GGA TTC TTA GCT TTG CCA GGA AAT CCT GAG CCT CCA GGG AAC ATG GGT TTA TTT GAT CAA CAG TTG GCT CTT CAG TGG GTT CAA AAA | 540 |     |
| 190   | 200 | 210 |
| Asn Ile Ala Ala Phe Gly Gly Asn Pro Lys Ser Val Thr Leu phe Gly Glu SER Ala Gly Ala Ala Ser Val Ser Leu His Leu Leu Ser |     |     |
| AAT ATA GCA GCC TTT GGT GGA AAT CCT AAA AGT GTA ACT CTC TTT GGA GAA AGT GCA GCA GGT TCA GGT AGC CTG CAT TTG CTT TCT     | 630 |     |
| 220   | 230 | 240 |
| Pro Gly Ser His Ser Leu Phe Thr Arg Ala Ile Leu Gln Ser Gly Ser Phe Asn Ala Pro Trp Ala Val Thr Ser Leu Tyr Glu Ala Arg |     |     |
| CCT GGA ACC CAT TCA TTG TTC ACC AGA GCC ATT CTG CAA AGT GGT TCC TTT AAT GCT CCT TGG GCG GTA ACA TCT CTT TAT GAA GCT AGG | 720 |     |
| CHO   | 250 | 260 |
| Asn Arg Thr Leu Asn Leu Ala Lys Leu Thr Gly Cys Ser Arg Glu Asn Glu Thr Glu Ile Ile Lys Cys Leu Arg Asn Lys Asp pro Gln |     |     |
| AAC AGA ACC TTG AAC TTA GCT AAA TTG ACT GGT TGC TCT AGA GAG AAT GAG ACT GAA ATA ATC AAG TGT CTT ACA AAT AAA GAT CCC CAA | 810 |     |
| 280   | 290 | 300 |
| Glu Ile Leu Leu Asn Glu Ala Phe Val Val Pro Tyr Gly Thr Pro Leu Ser Val Asn Phe Gly Pro Thr Val Asp Gly Asp Phe Leu Thr |     |     |
| GAA ATT CTT CTG AAT GAA GCA TTT GTT GTC CCC TAT GGG ACT CCT TTG TCA GTA AAC TTT GGT CCG ACC GTG GAT GGT GAT TTT CTC ACT | 900 |     |
| 310   | 320 | 330 |
| Asp Met Pro Asp Ile Leu Leu Glu Leu Gly Gln Phe Lys Lys Thr Gln Ile Leu Val Gly Val Asn Lys Asp Glu Gly Thr Trp Phe Leu |     |     |
| GAC ATG CCA GAC ATA TTA CTT GAA CTT GGA CAA TTT AAA ACC CAG ATT TTG GTG GGT GTT AAT AAA GAT GAA GGG ACA TGG TTT TTA     | 990 |     |

Figure 1B

340 350 360  
Val Tyr Gly Ala Pro Gly Phe Ser Lys Asp Asn Ser Ile Ile Thr Arg Lys Glu Phe Gln Glu Gly Leu Lys Ile Phe Phe Pro Gly  
GTC TAT GGT GCT CCT GGC TTC AGC AAA GAT AAC AAT AGT ATC ATA ACT AGA AAA GAA TTT CAG GAA GGT TTA AAA ATA TTT TTT CCA GGA 1080  
370 380 390  
Dra I SspI  
Val Ser Glu Phe Gly Lys Glu Ser Ile Leu Phe His Tyr Thr Asp Trp Val Asp Asp Gln Arg Pro Glu Asn Tyr Arg Glu Ala Leu Gly  
GTG ACT GAG TTT GGA AAG GAA TCC ATC CTT TTT CAT TAC ACA GAC TCG GTA GAT GAT CAG AGA CCT GAA AAC TAC CGT GAG GCC TTG GGT 1170  
400 410 420  
Stu I  
Asp Val Val Gly Asp Tyr Asn Phe Ile Cys Pro Ala Leu Glu Phe Thr Lys Lys Phe Ser Glu Trp Gly Asn Asn Ala Phe Phe Tyr Tyr  
GAT GTT GTT GGG GAT TAT AAT TTC ATA TGC CCT GGC CTT GAG TTC ACC AAG AAG TTC TCA GAA TGG GGA AAT AAT GCC TTT TTC TAC TAT 1260  
430 440 450  
Phe Glu His Arg Ser Ser Lys Leu Pro Trp Pro Glu Trp Met Gly Val Met His Gly Tyr Glu Ile Glu Phe Val Phe Gly Leu Pro Leu  
TTT GAA CAC CGA TCC TCC AAA CTT CCG TGG CCA GAA TGG ATG GGA GTG ATG CAT GGC TAT GAA ATT GAA TTT GTC TTT GGT TTA CCT CTG 1350  
460 470 480  
CHO  
Glu Arg Arg Asp Asn Tyr Thr Lys Ala Glu Glu Ile Leu Ser Arg Ser Ile Val Lys Arg Trp Ala Asn Phe Ala Lys Tyr Gly Asn Pro  
GAA AGA AGA GAT AAT TAC ACA AAA GCC GAG GAA AAT TTG AGT AGA TCC ATA GTG AAA CGG TGG GCA AAT TTT GCA AAA TAT GGG AAT CCA 1440  
490 500 510  
CHO  
Asn Glu Thr Gln Asn Asn Ser Thr Ser Trp Pro Val Phe Lys Ser Thr Glu Gln Lys Tyr Leu Thr Leu Asn Thr Glu Ser Thr Arg Ile  
AAT GAG ACT CAG AAC AAT AGC ACA AGC TGG CCT GTC TTC AAA AGC ACT GAA CAA AAA TAT CTA ACC TTG AAT ACA GAG TCA ACA AGA ATA 1530  
Hinc II

Figure 1C

|   |       |                         |            |
|---|-------|-------------------------|------------|
| Met Thr Lys Leu Arg Ala Gln Gln Cys Arg Phe Trp Thr Ser Phe Phe Pro Lys Val Leu Glu Met Thr Gly Asn Ile Asp Glu Ala Glu | 520   | 530                     | 540        |
| ATG ACG AAA CTA CGT GGT CAA CAA TGT CGA TTC TCG ACA TCA TTT TTT CCA AAA GTC TTG GAA ATG ACA GGA AAT ATT GAT GAA GCA GAA |       |                         | 1620       |
|   | Taq I |                         |            |
| Trp Glu Trp Lys Ala Gly Phe His Arg Trp Asn Asn Tyr Met Met Asp Trp Lys Asn Gln Phe Asn Asp Tyr Thr Ser Lys Lys Glu Ser |       | 560                     | 570        |
| TGG GAG TGG AAA GCA GCA TTC CAT CGC TGG AAC AAT TAC ATG ATG GAC TGG AAA AAT CAA TTT AAC GAT TAC ACT AGC AAG AAA GAA AGT |       |                         | 1710       |
|   | Ssp I |                         |            |
|   | 574   |                         |            |
| Cys Val Gly Leu ***   |       |                         |            |
| TGT GTG GGT CTC TAA TTA ATA GAT CTG TCA TGA TGA TCA TTG CAA TTG GAT CCA TAT ATA GGG CCC TATT CTATAGTGTACCTAAAT          |       |                         |            |
|   | Ase I | Bgl II                  |            |
|   | Bcl I | Bam HI, Eco01091, Apa I | Sp6 primer |

Figure 1D

10 20 30 40 50  
 EDDII IATKNGKVRGMNLT VFGGT VTAFLGIPYAQPPLGRLRFKKPQSLTK  
 60 70 80 90 100  
 WSDIWNATKYANSCCQNI DQSFPGFHGSEMWNPNNTDLSEDCLYLNWVWPAP  
 110 120 130 140 150  
 KPKNATV LIWIYGGGFQTGT SSLHVYDGKFLARVERVIVVSMNYRVGALGF  
 160 170 180 190 200  
 LALPGNPEAPGNMGLFDQQLALQWVQKNIAAFGGNPKSVT LFGESAGAASV  
 210 220 230 240 250  
 SLHLLSPGSHSLFTRAILQ SGSFNAPWAVTSLYEARNRTLNLAKLTGCSRE  
 260 270 280 290 300  
 NETEIIKCLRNKDPQEILLNEA FVVPYGTPLSVNFGPTVDGDFLTDMPDIL  
 310 320 330 340 350  
 LELGQFKKTQILVGVNKDEGT AFLVYGAPGFSKDNNSIITRKEFQEGLKIF  
 360 370 380 390 400  
 FPGVSEFGKESILFHYTDWVDDQRPENYREALGDVVGDYNFICPALEFTKK  
 410 420 430 440 450  
 FSEWGNNAFFYYFEHRSSKLP WPEWMGMHGYEIEFVFGLPLERRDNYTKA  
 460 470 480 490 500 510  
 EEILSR SIVKRWANFAKYGNPNETQNNSTSWPVFKSTEQKYLT LNTESTRI  
 520 530 540 550 560  
 MTKLRAQQCRFWTSFFPKVLEMTGNIDEAEWEWKAGFHRWNNYMMDWKNQF  
 570  
 NDYTSKKESCVGL

Figure 2

094839-060101  
 T01090-624460

1 tactgaatgt cagtgcagtc caatttacag gctggagcag cagctgcac ctcgatttcc  
 61 ccgaagtatt acatgatttt cactccttgc aaactttacc atctttgttg cagagaatcg  
 121 gaaatcaata tgcatagcaa agtcacaatc atatgcatca gatttctctt ttggtttctt  
 181 ttgctctgca tgcttattgg gaagtcacat actgaagatg acatcataat tgcaacaaag  
 241 aatggaaaag tcagagggat gaacttgaca gtttttggtg gcacggtaac agcctttctt  
 301 ggaattccct atgcacagcc acctcttggg agacttcgat tcaaaaagcc acagtctctg  
 361 accaagtggg ctgatatttg gaatgccaca aaatatgcaa attcttgctg tcagaacata  
 421 gatcaaagtt ttccaggctt ccatggatca gagatgtgga acccaaacac tgacctcagt  
 481 gaagactggt tatatctaaa tgtatggatt ccagcaccta aaccaaaaaa tgccactgta  
 541 ttgatattga tttatgggtg tggttttcaa actggaacat catctttaca tgtttatgat  
 601 ggcaagtttc tggtctgggt tgaaagagtt attgtagtgt caatgaacta taggggtgggt  
 661 gccctaggat tcttagcttt gccaggaaat cctgaggctc cagggaacat ggggtttattt  
 721 gatcaacagt tggtctttca gtgggttcaa aaaaatatag cagcctttgg tggaaatcct  
 781 aaaagtgtaa ctctcttttg agaaagtgca ggagcagctt cagtttagcct gcatttgctt  
 841 tctcctggaa gccattcatt gttcaccaga gccattctgc aaagtggatc cttaaatgct  
 901 ccttgggcgg taacatctct ttatgaagct aggaacagaa cgttgaaactt agctaaattg  
 961 actggttgct ctagagagaa tgagactgaa ataatcaagt gtcttagaaa taaagatccc  
 1021 caagaaattc ttctgaatga agcatttggt gtcccctatg ggactccttt gtcagtaaac  
 1081 tttggtccga ccgtggatgg tgattttctc actgacatgc cagacatatt acttgaactt  
 1141 ggacaattta aaaaaacca gattttggtg ggtgttaata aagatgaagg gacagctttt  
 1201 ttagtctatg gtgctcctgg cttcagcaaa gataacaata gtatcataac tagaaaagaa  
 1261 tttcaggaag gtttaaaaat attttttcca ggagtgaagt agtttggaag ggaatccatc  
 1321 ctttttcatt acacagactg ggtagatgat cagagacctg aaaactaccg tgaggccttg  
 1381 ggtgatgttg ttggggatta taatttcata tgccctgcct tggagttcac caagaagttc  
 1441 tcagaatggg gaaataatgc ctttttctac tattttgaac accgatcctc caaacttccg  
 1501 tggccagaat ggatgggagt gatgcatggc tatgaaattg aatttgtctt tggtttacct  
 1561 ctggaaagaa gagataatta cacaaaagcc gaggaaattt tgagtagatc catagtgaag  
 1621 cgggtgggcaa attttgcaaa atatgggaat ccaaatgaga ctcagaacaa tagcacaagc  
 1681 tggcctgtct tcaaaagcac tgaacaaaaa tatctaacct tgaatacaga gtcaacaaga  
 1741 ataatgacga aactacgtgc tcaacaatgt cgattctgga catcattttt tccaaaagtc  
 1801 ttggaatga caggaaatat tgatgaagca gaatgggagt ggaaagcagg attccatcgc  
 1861 tggacaatt acatgatgga ctggaaaaat caatttaacg attacactag caagaaagaa  
 1921 agttgtgtgg gtctctaatt aatagattta ccctttatag aacatatttt ccttttagatc  
 1981 aaggcaaaaa tatcaggagc ttttttacac acctactaaa aaagttatta tgtagctgaa

Figure 3A

### Figure 3B



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|                      | 1          | 10         | 20          | 30 |
|----------------------|------------|------------|-------------|----|
| HUMAN WILD-TYPE BChE | EDDIIIATKN | GKVRGMNLTV | FGGTVTAFLG  |    |
| HUMAN A VARIANT BChE | -----      | -----      | -----       |    |
| HUMAN J VARIANT BChE | -----      | -----      | -----       |    |
| HUMAN K VARIANT BChE | -----      | -----      | -----       |    |
| RAT BChE             | EEDVIITTKT | GRVRGLSMPI | LG GTVTAFLG |    |
| CAT BChE             | EEDIIITTKN | GKVRGMNLTV | LD GTVTAFLG |    |
| HORSE BChE           | EEDIIITTKN | GKVRGMNLTV | LG GTVTAFLG |    |

|          | 40         | 50         | 60         | 70         | 80          | 90         | 100        |
|----------|------------|------------|------------|------------|-------------|------------|------------|
| HUMAN WT | IPYAQPPLGR | LRFKKPQSLT | KWSDIWNATK | YANSCCQNID | QSFPGFHGSE  | MWNPNTDLSE | DCLYLNWVIP |
| HUMAN A  | -----      | -----      | -----      | -----G     | -----       | -----      | -----      |
| HUMAN J  | -----      | -----      | -----      | -----      | -----       | -----      | -----      |
| HUMAN K  | -----      | -----      | -----      | -----      | -----       | -----      | -----      |
| RAT      | IPYAQPPLGS | LRFKKPQPLN | KWPDVYNATK | YANSCYQNID | QAFPGFQOSE  | MWNPNTNLSE | DCLYLNWVIP |
| CAT      | IPYAQPPLGR | LRFKKPQFLT | KWSDIWNATK | YANSCYQNAD | QSFPGFPGSE  | MWNPNTDLSE | DCLYLNWVIP |
| HORSE    | IPYAQPPLGR | LRFKKPQSLT | KWSNIWNATK | YANSCYQNTD | QSFPGFGLGSE | MWNPNTLSE  | DCLYLNWVIP |

|          | 110        | 120        | 130        | 140        | 150        | 160        | 170        |
|----------|------------|------------|------------|------------|------------|------------|------------|
| HUMAN WT | APKPKNATVL | IWIYGGGFQT | GTSSLHVIDG | KFLARVERVI | VVSMNYRVGA | LGFLALPGNP | EAPGNMGLFD |
| HUMAN A  | -----      | -----      | -----      | -----      | -----      | -----      | -----      |
| HUMAN J  | -----      | -----      | -----      | -----      | -----      | -----      | -----      |
| HUMAN K  | -----      | -----      | -----      | -----      | -----      | -----      | -----      |
| RAT      | VPKPKNATVM | VWVYGGGFQT | GTSSLPVYDG | KFLTRVERVI | VVSMNYRVGA | LGFLAFPGNS | EAPGNMGLFD |
| CAT      | TPKPKNATVM | IWIYGGGFQT | GTSSLPVYDG | KFLARVERVI | VVSMNYRVGA | LGFLALPGNP | EVPGNMGLFD |
| HORSE    | APKPKNATVM | IWIYGGGFQT | GTSSLPVYDG | KFLARVERVI | VVSMNYRVGA | LGFLALSEN  | EAPGNMGLFD |

|          | 180        | 190        | 200        | 210        | 220        | 230        | 240        |
|----------|------------|------------|------------|------------|------------|------------|------------|
| HUMAN WT | QQLALQWVQK | NIAAFGGNFK | SVTLFGESAG | AASVSLHLLS | PGSHSLFTRA | ILQSGSFNAP | WAVTSLYEAR |
| HUMAN A  | -----      | -----      | -----      | -----      | -----      | -----      | -----      |
| HUMAN J  | -----      | -----      | -----      | -----      | -----      | -----      | -----      |
| HUMAN K  | -----      | -----      | -----      | -----      | -----      | -----      | -----      |
| RAT      | QQLALQWVQK | NIAAFGGNPK | SVTLFGESAG | AASVSLHLLC | PQSYPLFTRA | ILESGSSNAP | WAVKHPEEAR |
| CAT      | QQLALQWVQK | NIAAFGGNPK | SVTLFGESAG | AGSVSLHLLS | PRSQPLFTRA | ILQSGSSNAP | WAVMSLDEAK |
| HORSE    | QQLALQWVQK | NIAAFGGNPR | SVTLFGESAG | AASVSLHLLS | PRSQPLFTRA | ILQSGSSNAP | WAVTSLYEAR |

|          | 250        | 260        | 270        | 280        | 290        | 300        | 310        |
|----------|------------|------------|------------|------------|------------|------------|------------|
| HUMAN WT | NRTLNLAKLT | GCSRENETEI | IKCLRNKDPQ | EILLNEAFVV | PYGTPLSVNF | GPTVDGDFLT | DMPDILLELG |
| HUMAN A  | -----      | -----      | -----      | -----      | -----      | -----      | -----      |
| HUMAN J  | -----      | -----      | -----      | -----      | -----      | -----      | -----      |
| HUMAN K  | -----      | -----      | -----      | -----      | -----      | -----      | -----      |
| RAT      | NRTLTLAKFI | GCSKENEKEI | ITCLRSKDPQ | EILLNEKLVL | PSDSIRSINF | GPTVDGDFLT | DMPHTLLQLG |
| CAT      | NRTLTLAKFI | GCSKENDTEI | IKCLRNKDPQ | EILLNELLVV | PSDTLLSVNF | GPVVDGDFLT | DMPDTLLQLG |
| HORSE    | NRTLTLAKRM | GCSRDNETEM | IKCLRDKDPQ | EILLNEVFVV | PYDTLLSVNF | GPTVDGDFLT | DMPDTLLQLG |

Figure 4A

K01090"6E2B4260

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|          | 320        | 330        | 340        | 350        | 360        | 370        | 380        |
|----------|------------|------------|------------|------------|------------|------------|------------|
| HUMAN WT | QFKKTQILVG | VNKDEGTAFL | VYGAPGFSKD | NNSIITRKEF | QEGLKIFFPG | VSEFGKESIL | FHYTDWVDDQ |
| HUMAN A  | -----      | -----      | -----      | -----      | -----      | -----      | -----      |
| HUMAN J  | -----      | -----      | -----      | -----      | -----      | -----      | -----      |
| HUMAN K  | -----      | -----      | -----      | -----      | -----      | -----      | -----      |
| RAT      | KVKTAQILVG | VNKDEGTAFL | VYGAPGFSKD | NDSLITRREF | QEGLNMYFPG | VSSLGKEAIL | FYYVDWLGDQ |
| CAT      | QFKKTQILVG | VNKDEGTAFL | VYGAPGFSKD | NDSIITRKEF | QEGLKIYFPG | VSEFGREAIL | FYYVDLLDDQ |
| HORSE    | QFKRTQILVG | VNKDEGTAFL | VYGAPGFSKD | NNSIITRKEF | QEGLKIFFPR | VSEFGRESIL | FHYMDWLDDQ |

|          | 390        | 400         | 410        | 420        | 430        | 440        | 450         |
|----------|------------|-------------|------------|------------|------------|------------|-------------|
| HUMAN WT | RPENYREALG | DVVGDFNFIC  | PALEFTKKFS | EWGNNAFFYY | FEHRSSKLPW | PEWMGVMHGY | EIEFVFGGLPL |
| HUMAN A  | -----      | -----       | -----      | -----      | -----      | -----      | -----       |
| HUMAN J  | -----      | -----       | -----      | -----      | -----      | -----      | -----       |
| HUMAN K  | -----      | -----       | -----      | -----      | -----      | -----      | -----       |
| RAT      | TPEVYREAFD | DIIGDYNIIIC | PALEFTKKFA | ELEINAFFYY | FEHRSSKLPW | PEWMGVMHGY | EIEFVFGGLPL |
| CAT      | RAEKYREALD | DVLGDYNIIC  | PALEFTTKFS | ELGNNAFFYY | FEHRSSQLPW | PEWMGVMHGY | EIEFVFGGLPL |
| HORSE    | RAENYREALD | DVVGDFNFIC  | PALEFTRKFS | ELGNDAFFYY | FEHRSTKLPW | PEWMGVMHGY | EIEFVFGGLPL |

|          | 460        | 470         | 480        | 490        | 500        | 510        | 520        |
|----------|------------|-------------|------------|------------|------------|------------|------------|
| HUMAN WT | ERRDNYTKAE | EILSRISIVKR | WANFAKYGNP | NETQNNSTSW | PVFKSTEQKY | LTLNTESTRI | MTKLRAQQCR |
| HUMAN A  | -----      | -----       | -----      | -----      | -----      | -----      | -----      |
| HUMAN J  | -----      | -----       | -----      | -----      | -----      | -----      | -----      |
| HUMAN K  | -----      | -----       | -----      | -----      | -----      | -----      | -----      |
| RAT      | ERRVNYTRAE | EIFSRISIMKT | WANFAKYGHP | NGTQGNSTVW | PVFTSTEQKY | LTLNTEKSKI | NSKLRAQQCQ |
| CAT      | ERRVNYTRAE | EILSRISIMNY | WANFAKYGNP | NGTQNNSTRW | PAFRSTDQKY | LTLNAESPKV | YTKLRAQQCR |
| HORSE    | ERRVNYTRAE | EILSRISIMKR | WANFAKYGNP | NGTQNNSTRW | PVFKSTEQKY | LTLNTEPKV  | YTKLRAQQCR |

|          | 530         | 540        | 550        | 560       | 570        | 574  |
|----------|-------------|------------|------------|-----------|------------|------|
| HUMAN WT | FWTSFFPKVL  | EMTGNIDEAE | WEWKAGFHRW | NNYMDWKNQ | FNDYTSKKES | CVGL |
| HUMAN A  | -----       | -----      | -----      | -----     | -----      | ---  |
| HUMAN J  | -----       | -----      | -----      | -----     | -----      | ---  |
| HUMAN K  | -----       | -----      | -----      | -----     | -----      | ---  |
| RAT      | FWRLEFFPKVL | EITGDIDERE | QEWKAGFHRW | SNYMDWKNQ | FNDYTSKKES | CTDL |
| CAT      | FWTLEFFPKVL | EMTGNIDEAE | REWRAGFYRW | NNYMDWKNQ | FNDYTSKKES | CAGL |
| HORSE    | FWTLEFFPKVL | ELTGNIDEAE | REWKAGFHRW | NNYMDWKNQ | FNDYTSKKES | CSDF |

Figure 4B

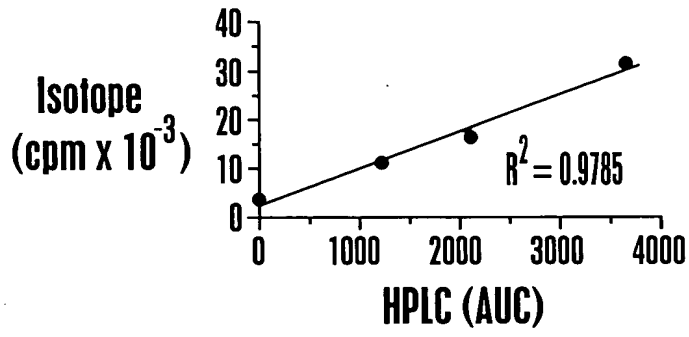


Figure 5A

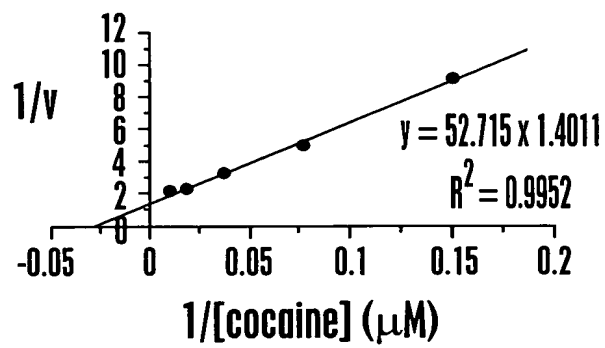


Figure 5B